

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/005667

Filing Date: November 2, 2001

Title: METHOD OF FABRICATING AN INTEGRATED CIRCUIT HAVING A MEMS DEVICE

Assignee: Intel Corporation

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Dkt: 884.591US1 (INTEL)

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-28 (Canceled)

29. (New) A method comprising:

forming a MEMS device, a ring layer, and a pad on a substrate such that the MEMS device and the pad are within the ring layer;

forming an integrated circuit; and

bonding the ring layer and the pad to the integrated circuit to form a sealed cavity that includes the MEMS device and the pad.

30. (New) The method of claim 29, wherein the ring layer and the pad on the substrate are electrically conductive.

31. (New) The method of claim 29, wherein forming the integrated circuit includes forming a ring layer and a pad on the integrated circuit such that the pad on the integrated circuit is within the ring layer on the integrated circuit.

32. (New) The method of claim 31, wherein bonding the ring layer and the pad on the substrate to the integrated circuit includes bonding the ring layer on the substrate to the ring layer on the integrated circuit and bonding the pad on the substrate to the pad on the integrated circuit.

33. (New) The method of claim 29, wherein bonding the ring layer and the pad to the integrated circuit to form a sealed cavity includes bonding the ring layer and the pad to the integrated circuit in a controlled environment.

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34. (New) The method according to claim 33, wherein bonding the ring layer and the pad to the integrated circuit in a controlled environment includes bonding the ring layer and the pad to the integrated circuit in a vacuum.

35. (New) A method comprising:

forming a MEMS device on a substrate;

forming a ring layer and a pad on an integrated circuit such that the pad is within the ring layer on the integrated circuit; and

bonding the ring layer and the pad to the substrate to form a sealed cavity that includes the MEMS device and the pad.

36. (New) The method of claim 35, wherein forming a MEMS device on a substrate includes forming a ring layer and a pad on the substrate such that the MEMS device and the pad on the substrate are within the ring layer on the substrate, and wherein bonding the ring layer and the pad on the integrated circuit to the substrate includes bonding the ring layer on the substrate to the ring layer on the integrated circuit and bonding the pad on the substrate to the pad on the integrated circuit.

37. (New) The method of claim 36, wherein the ring layers on the substrate and the integrated circuit are electrically conductive.

38. (New) The method of claim 35, wherein bonding the ring layer and the pad to the substrate to form a sealed cavity includes bonding the ring layer and the pad to the substrate in a controlled environment.

39. (New) A method comprising:

forming a MEMS device on a substrate; and

coupling the substrate to a chip to form a sealed cavity that includes the MEMS device and pads that electrically connect the chip and the substrate.

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40. (New) The method of claim 39, wherein forming a MEMS device on a substrate includes forming a ring layer on the substrate that surrounds the MEMS device, and coupling the substrate to the chip includes bonding the ring layer on the substrate to the chip.

41. (New) The method of claim 39, wherein coupling the substrate to the chip includes coupling the substrate to the chip in a controlled environment such that a similar controlled environment is formed within the sealed cavity.

42. (New) A method comprising:

- forming a MEMS device on a substrate;
- forming a pad on the substrate near the MEMS device;
- forming a ring layer on the substrate that surrounds the MEMS device and the pad;
- forming an integrated circuit;
- forming a pad on the integrated circuit;
- forming a ring layer on a surface of the integrated circuit that surrounds the pad on the integrated circuit;
- bonding the pad on the substrate to the pad on the integrated circuit; and
- bonding the ring layer on the substrate to the ring layer on the integrated circuit to form a sealed cavity that includes the MEMS device and the pads.

43. (New) The method of claim 42, wherein bonding the ring layer on the substrate to the ring layer on the integrated circuit includes coupling the substrate to the integrated circuit in a controlled environment.

44. (New) The method of claim 42, wherein the ring layers on the substrate and the integrated circuit are electrically conductive.

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45. (New) The method of claim 42, further comprising:

forming at least one additional pad within the ring layer on the substrate near the MEMS device;

forming at least one additional pad within the ring layer on the integrated circuit; and

bonding the at least one additional pad on the substrate to the at least one pad on the integrated circuit within the sealed cavity.

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